Southern Yellow Pine

Bridge and Trestle Timbers For Railway Structures

INCLUDING DEFINITION OF THE

New "Density" Rule

Adopted and Copyrighted by the

American Society for Testing Materials

And Reprint of Grades as adopted by the American Railway Engineering Association except change of names to conform to New Density Rule.

APPROVED AND ADOPTED BY THE

Southern Pine Association

NEW ORLEANS, LA.

JANUARY 1, 1917

Standard Specifications for Southern Yellow Pine Bridge and Trestle Timbers

(To be applied to Single Sticks and not to Composite Members)

For Use in Railway Structures.

THE use of Southern Yellow Pine for bridge and trestle timbers in railroad work requires high grade pieces of timber both as to strength and lasting power. Recognizing these facts, a special set of standard specifications has been adopted by the Southern Pine Association. The specifications as to the quality of the timber are according to the Standard Specifications adopted and copyrighted by the American Society for Testing Materials defining dense and sound pine.† These terms replace the botanical designation hitherto used, that is, longleaf, shortleaf and loblolly pine. The grade "dense" pine refers to the strongest pieces of

† Adopted and copyrighted by the American Society for Testing Materials, August, 1915.

what has hitherto been known as longleaf pine.

The specifications as to grades are the Standard Specifications for Southern Yellow Pine bridge and trestle timbers adopted and published in the Manual by the American Railway Engineering Association (reprinted by permission of the American Railway Engineering Association from the Manual, 1916). The only change which has been made in the reprint of the American Railway Engineering Association rules is that "dense" pine has been substituted for longleaf pine and "sound" pine for shortleaf pine.

BRANDED TIMBERS

Proper service to buyers and users of yellow-pine timber demands correct grading, and the branding or marking of each stick of timber showing its grade.

Variation in the individual character of different pieces of timber is responsible for the difference in strength. Structurally, some are much stronger than others.

Owing to the confusion which frequently results in the proper classifying of timbers into longleaf, shortleaf, loblolly, etc., a new rule has been devised and recently adopted by the American Society for Testing Materials, and known among the trade as the "Density Rule", which classifies all Southern Pine timbers, irrespective of botanical species, into two classes; namely, "Dense Southern Yellow Pine" and "Sound Southern Yellow Pine."

Details and description of these designations will be found in the following pages.

The Southern Pine Association recommends that all timbers be branded. All manufacturers and dealers are invited

to brand their timber in accordance with the grades and classifications contained in this book.

Southern Pine Association.

New Orleans, Louisiana, U. S. A.
January 1, 1917.

DEFINITION FOR SOUTHERN YELLOW PINE.

(Adopted and Copyrighted by the American Society for Testing Materials, August, 1915.)

SOUTHERN YELLOW PINE.—This term includes the species of yellow pine growing in the Southern States from Virginia to Texas, that is, the pines hitherto known as longleaf pine (*Pinus palustris*), shortleaf pine (*Pinus echinata*), loblolly pine (*Pinus taeda*), Cuban pine (*Pinus heterophylla*) and pond pine (*Pinus serotina*).

Under this heading two classes of timber are designated: (*a*) dense Southern yellow pine and (*b*) sound Southern yellow pine. It is understood that these two terms are descriptive of quality rather than of botanical species.

(a) **Dense Southern Yellow Pine** shall show on either end an average of at least six annual rings per inch and at least one-third summer wood, or else the greater number of the rings shall show at least one-third summer wood, all as measured over the third, fourth and fifth inches of a radial line from the pith. Wide-ringed material excluded by this

rule will be acceptable, provided that the amount of summer wood as above measured shall be at least one-half.

The contrast in color between summer wood and spring wood shall be sharp and the summer wood shall be dark in color, except in pieces having considerably above the minimum requirement for summer wood.

In cases where timbers do not contain the pith, and it is impossible to locate it with any degree of acccuracy, the same inspection shall be made over 3″ on an approximate radial line beginning at the edge nearest the pith in timbers over 3″ in thickness and on the second inch (on the piece) nearest to the pith in timbers 3″ or less in thickness.

In dimension material containing the pith but not a 5″ radial line, which is less than 2 x 8″ in section or less than 8″ in width, that does not show over 16 sq. in. on the cross-section, the inspection shall apply to the second inch from the pith. In larger material that does not show a 5″ radial line the inspection shall apply to the three inches farthest from the pith.

The radial line chosen shall be representative. In case of disagreement between

purchaser and seller the average summer wood and number of rings shall be the average of the two radial lines chosen.

(b) **Sound Southern Yellow Pine** shall include pieces of Southern pine without any ring or summer wood requirement.

STANDARD SPECIFICATIONS FOR SOUTHERN YELLOW PINE BRIDGE AND TRESTLE TIMBERS * †

(To be applied to Single Sticks and not to Composite Members)

General Requirements.

1. Except as noted, all timber shall be sound, sawed to standard size, square cornered and straight; close grained and free from defects such as injurious ring shakes and cross grain, unsound or loose knots, knots in groups, decay, or other defects that will materially impair its strength.

Standard Size.

2. "Rough timbers sawed to standard size" means that they shall not be over ¼" scant from the actual size specified. For instance, a 12x12" timber shall measure not less than 11¾x11¾".

* Adopted, Vol. 10, Part 1, 1909, pp. 537, 539-541, 598-603; Vol. 11, 1910, Part 1, pp. 176, 180, 181, 228-230. Proc. Am. Ry. Eng. Ass.

† These specifications are reprinted from the Manual of the American Railway Engineering Association with permission. The terms "Longleaf" and "Shortleaf" have been changed to read "Dense" and "Sound" respectively.

Standard Dressing.

3. "Standard Dressing" means that not more than ¼" shall be allowed for dressing each surface. For instance, a 12x12" timber, after being dressed on four sides, shall measure not less than 11½x11½".

STANDARD HEART GRADE, DENSE PINE.

Stringers.

4. Stringers shall show not less than 85 per cent heart on the girth anywhere in the length of the piece; provided, however, that if the maximum amount of sap is shown on either narrow face of the stringer, the average depth of sap shall not exceed one-half inch. Knots greater than 1½" in diameter will not be permitted at any section within 4" of the edge of the piece, but knots shall in no case exceed 4" in their largest diameter.

Caps and Sills.

5. Caps and sills shall show not less than 85 per cent heart on each of the four sides, measured across the sides anywhere in the length of the piece, and shall be free from knots over 2½" in diameter.

Posts.

6. Posts shall show not less than 75 per cent heart on each of the four sides, measured across the sides anywhere in the length of the piece, and **shall** be free from knots over 2½″ in diameter.

Longitudinal Struts and Girts.

7. Longitudinal Struts and Girts shall be square cornered and sound. One side shall show all heart; the other side shall show not less than 85 per cent heart, measured across the side anywhere in the length of the piece, and shall be free from any large knots or other defects that will materially injure their strength.

Longitudinal X Braces, Sash and Sway Braces.

8. Longitudinal X Braces, Sash Braces and Sway Braces shall be square cornered and sound; shall show not less than 80 per cent heart on each of the two sides, and shall be free from any large knots or other defects that will materially injure their strength.

Ties and Guard Rails.

9. Ties and Guard Rails shall show one side all heart; the other side and two

edges shall show not less than 75 per cent heart, measured across the surface anywhere in the length of the piece; shall be free from any large knots or other defects that will materially injure their strength; and where surfaced the remaining rough face shall show all heart.

STANDARD GRADE, DENSE AND SOUND YELLOW PINE.

Stringers.

10. Stringers shall be square cornered, with the exception of 1″ wane on one corner or ½″ wane on two corners. Knots shall not exceed in their largest diameter one-fourth of the width of the surface of the stick in which they occur, and shall in no case exceed 4 inches. Ring shakes shall not extend over one-eighth of the length of the piece.

Caps and Sills.

11. Caps and Sills shall be square cornered, with the exception of 1″ wane on one corner, or ½″ wane on two corners. Knots shall not exceed in their largest diameter ¼ of the width of the surface of the stick in which they occur, and in no case shall exceed 4″. Ring shakes shall not extend over one-eighth of the length of the piece.

Posts.

12. Posts shall be square cornered, with the exception of 1″ wane on one corner, or ½″ wane on two corners. Knots shall not exceed, in their largest diameter, one-fourth of the width of the surface of the stick in which they occur, and shall in no case exceed 4″. Ring shakes shall not extend over one-eight of the length of the piece.

NOTICE

This book will be re-issued occasionally to take care of all changes, cancellations and additions.

In order that you may be certain of always having the LATEST SPECIFICATIONS for ***Southern Yellow Pine Bridge and Trestle Timbers*** in your possession, please detach this sheet, fill in the blanks below and send to the

Southern Pine Association

Interstate Bank Bldg.,
New Orleans, La.

*Name*_____

*Firm*_____

1-1-17 *Address*_____

WE WILL PUT THE ABOVE ADDRESS ON OUR MAILING LIST

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